



November 29, 2010

Duke Energy  
Miami Fort Generating Station  
11021 Brower Road  
North Bend, OH 45052

Attention: Ms. Sue Wallace  
Chemical Engineer

Re: Results – **November 2010**  
Low-Level Mercury Sampling  
Miami Fort Generating Station  
North Bend, Ohio

In accordance with your request, URS prepared the following letter report transmitting low-level mercury test results for samples collected at the Miami Fort Generating Station located in North Bend, Ohio.

The scope of work involved the sampling of intake and discharge waters from the following sources and analysis of those samples for low-level mercury.

1. River Intake
2. Station 601 (WWT Influent)  
[Samples were collected at this station one detention time before samples collected at Outfall 608]
3. Outfall 608 (WWT Effluent)  
[Samples were collected at this outfall one detention time after samples collected at station 601]
4. Outfall 002 (Pond B Discharge)

Each sample was collected following the required Method 1669: *Sampling Ambient Water for Determination of Trace Metals at EPA Water Quality Criteria Levels* (Sampling Method) and analyzed by Method 1631. At the request of Duke Energy, total metal mercury samples were collected from Station 601 and analyzed by Method 7470A. Also at the request of Duke Energy, a dissolved low-level mercury sample was collected by Method 1669 from Outfall 608 and analyzed by Method 1631. The collected dissolved sample was filtered at the laboratory utilizing 0.45 micron filtration.

Field staff from URS' Cincinnati office conducted the sampling and TestAmerica Laboratories Inc. located in North Canton, Ohio performed the analytical procedures. The analytical procedures included the analyses of a collected sample and duplicate sample (duplicates collected at Outfall 608 and Outfall 002), field blank (field blanks collected at the River Intake, Outfall 608, and Outfall 002), and trip blank.



Duke Energy - MFS  
November 29, 2010  
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The results from the **November 1 and 2, 2010** sampling event are presented in the attached Table 1. A copy of the laboratory report is enclosed with this letter.

--ooOoo--

URS is pleased to provide continued assistance to Duke Energy in the execution of their environmental monitoring requirements. If there are any questions regarding the content of this report, please do not hesitate to contact the undersigned.

Sincerely,

URS Corporation

A handwritten signature in blue ink, appearing to read "Michael A. Wagner", is positioned above the printed name.

Michael A. Wagner  
Project Manager

A handwritten signature in blue ink, appearing to read "Dennis P. Connair", is positioned above the printed name.

Dennis P. Connair, C.P.G.  
Principal

MAW/DPC/Duke Energy-MFS LL Hg 2011  
Job No. 14949813

**TABLE 1**  
**ANALYTICAL RESULTS**  
**LOW-LEVEL MERCURY**  
**RIVER INTAKE, STATION 601, OUTFALL 608, AND OUTFALL 002 (POND B)**  
**DUKE ENERGY - MIAMI FORT STATION**  
**NORTH BEND, OHIO**

Sample ID	Date Sampled / Results (ng/L, parts per trillion)						
	8/2/10	9/1/10	10/4/10	11/1/10	12/xx/2010	1/xx/2011	2/xx/2011
River Intake	1.9	0.86	1.1	1.1			
Station 601 (7)	48,200	391,000	187,000	408,000			
Station 601 (7)*	14,000	8,600	23,200	350,000			
Station 601 (7)* [duplicate]	13,000	Not Collected	Not Collected	378,000			
Station 601 (8)	NSC	428,000	285,000	247,000			
Station 601 (8)*	NSC	8,300	30,600	104,000			
Station 601 (8)*[duplicate]	NSC	Not Collected	28,400	Not Collected			
Outfall 608	420	631	440	248			
Outfall 608 [duplicate]	364	650	449	254			
Outfall 608 [dissolved, 0.45 micron]	Not Collected	83	70	124			
APB-002	1.8	2.3	3.1	2.9			
APB-002 [duplicate]	1.3	1.9	2.8	3.0			
Field Blank (RI-FB)	<0.50	<0.50	<0.50	<0.50			
Field Blank (WWT-FB)	<0.50	<0.50	<0.50	<0.50			
Field Blank (AP-FB)	<0.50	<0.50	<0.50	<0.50			
Trip Blank	<0.50	<0.50	<0.50	<0.50			

Samples collected by URS

Samples analyzed by TestAmerica of North Canton, Ohio

NSC - No Sample Collected (Unit's wastewater was not being processed at the time of sample collection)

\* = Total mercury analysis utilizing Method 7470A [results converted from ug/L (parts per billion) to ng/L]

B = Low-level mercury detected in associated field blank collected at sampling location

## ANALYTICAL REPORT

PROJECT NO. 1494

MF LLHG

Lot #: A0K030438

Sue Wallace

Duke Energy Corporation

PO Box 5385

Cincinnati, OH 45201

TESTAMERICA LABORATORIES, INC.



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**Kenneth J. Kuzior**

Project Manager

ken.kuzior@testamericainc.com

Approved for release.  
Kenneth J. Kuzior  
Project Manager  
11/24/2010 10:56 AM

November 19, 2010

TestAmerica Laboratories, Inc.

TestAmerica North Canton 4101 Shuffel Street NW, North Canton, OH 44720

Tel (330)497-9396 Fax (330)497-0772 [www.testamericainc.com](http://www.testamericainc.com)



# **CASE NARRATIVE**

A0K030438

The following report contains the analytical results for fourteen water samples and one quality control sample submitted to TestAmerica North Canton by Cinergy from the MF LLHG Site, project number 1494. The samples were received November 03, 2010, according to documented sample acceptance procedures.

TestAmerica utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameter(s) listed on the analytical methods summary page in accordance with the method(s) indicated. Preliminary results were provided to Candance Bonham, Mike Wagner, and Sue Wallace on November 10, 2010. A summary of QC data for these analyses is included at the back of the report.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the applicable methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

All parameters were evaluated to the reporting limit.

Please refer to the Quality Control Elements Narrative following this case narrative for additional quality control information.

If you have any questions, please call the Project Manager, Kenneth J. Kuzior, at 330-497-9396.

This report is sequentially paginated. The final page of the report is labeled as "END OF REPORT."

## **CASE NARRATIVE (continued)**

### **SUPPLEMENTAL QC INFORMATION**

#### **SAMPLE RECEIVING**

The temperature of the cooler upon sample receipt was 14.7°C.

#### **METALS**

The metals matrix spike/matrix spike duplicate for batch(es) 0309015 also supports the samples in batch(es) 0316013.

## QUALITY CONTROL ELEMENTS NARRATIVE

TestAmerica conducts a quality assurance/quality control (QA/QC) program designed to provide scientifically valid and legally defensible data. Toward this end, several types of quality control indicators are incorporated into the QA/QC program, which is described in detail in QA Policy, QA-003. These indicators are introduced into the sample testing process to provide a mechanism for the assessment of the analytical data. Program or agency specific requirements take precedence over the requirements listed in this narrative.

### **QC BATCH**

Environmental samples are taken through the testing process in groups called QUALITY CONTROL BATCHES (QC batches). A QC batch contains up to twenty environmental samples of a similar matrix (water, soil) that are processed using the same reagents and standards. TestAmerica North Canton requires that each environmental sample be associated with a QC batch.

Several quality control samples are included in each QC batch and are processed identically to the twenty environmental samples.

For SW846/RCRA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE/MATRIX SPIKE DUPLICATE (MS/MSD) pair or a MATRIX SPIKE/SAMPLE DUPLICATE (MS/DU) pair. If there is insufficient sample to perform an MS/MSD or an MS/DU, then a LABORATORY CONTROL SAMPLE DUPLICATE (LCSD) is included in the QC batch.

For 600 series/CWA methods, QC samples include a METHOD BLANK (MB), a LABORATORY CONTROL SAMPLE (LCS) and, where appropriate, a MATRIX SPIKE (MS). An MS is prepared and analyzed at a 10% frequency for GC Methods and at a 5% frequency for GC/MS methods.

### **LABORATORY CONTROL SAMPLE**

The Laboratory Control Sample is a QC sample that is created by adding known concentrations of a full or partial set of target analytes to a matrix similar to that of the environmental samples in the QC batch. Multi peak responders may not be included in the target spike list due to co-elution. The LCS analyte recovery results are used to monitor the analytical process and provide evidence that the laboratory is performing the method within acceptable guidelines. All control analytes indicated by a bold type in the LCS must meet acceptance criteria. Failure to meet the established recovery guidelines requires the reparation and reanalysis of all samples in the QC batch. Comparison of only the failed parameters from the first batch are evaluated. The only exception to the rework requirement is that if the LCS recoveries are biased high and the associated sample is ND (non-detected) for the parameter(s) of interest, the batch is acceptable.

At times, a Laboratory Control Sample Duplicate (LCSD) is also included in the QC batch. An LCSD is a QC sample that is created and handled identically to the LCS. Analyte recovery data from the LCSD is assessed in the same way as that of the LCS. The LCSD recoveries, together with the LCS recoveries, are used to determine the reproducibility (precision) of the analytical system. Precision data are expressed as relative percent differences (RPDs). If the RPD fails for an LCS/LCSD and yet the recoveries are within acceptance criteria, the batch is still acceptable.

### **METHOD BLANK**

The Method Blank is a QC sample consisting of all the reagents used in analyzing the environmental samples contained in the QC batch. Method Blank results are used to determine if interference or contamination in the analytical system could lead to the reporting of false positive data or elevated analyte concentrations. All target analytes must be below the reporting limits (RL) or the associated sample(s) must be ND except under the following circumstances:

- Common organic contaminants may be present at concentrations up to 5 times the reporting limits. Common metals contaminants may be present at concentrations up to 2 times the reporting limit, or the reported blank concentration must be twenty fold less than the concentration reported in the associated environmental samples. (See common laboratory contaminants listed in the table.)

<b><u>Volatile (GC or GC/MS)</u></b>	<b><u>Semivolatile (GC/MS)</u></b>	<b><u>Metals ICP-MS</u></b>	<b><u>Metals ICP Trace</u></b>
Methylene Chloride, Acetone, 2-Butanone	Phthalate Esters	Copper, Iron, Zinc, Lead, Calcium, Magnesium, Potassium, Sodium, Barium, Chromium, Manganese	Copper, Iron, Zinc, Lead

## QUALITY CONTROL ELEMENTS NARRATIVE (continued)

- Organic blanks will be accepted if compounds detected in the blank are present in the associated samples at levels 10 times the blank level. Inorganic blanks will be accepted if elements detected in the blank are present in the associated samples at 20 times the blank level.
- Blanks will be accepted if the compounds/elements detected are not present in any of the associated environmental samples.

Failure to meet these Method Blank criteria requires the reparation and reanalysis of all samples in the QC batch.

### **MATRIX SPIKE/MATRIX SPIKE DUPLICATE**

A Matrix Spike and a Matrix Spike Duplicate are a pair of environmental samples to which known concentrations of a full or partial set of target analytes are added. The MS/MSD results are determined in the same manner as the results of the environmental sample used to prepare the MS/MSD. The analyte recoveries and the relative percent differences (RPDs) of the recoveries are calculated and used to evaluate the effect of the sample matrix on the analytical results. Due to the potential variability of the matrix of each sample, the MS/MSD results may not have an immediate bearing on any samples except the one spiked; therefore, the associated batch MS/MSD may not reflect the same compounds as the samples contained in the analytical report. When these MS/MSD results fail to meet acceptance criteria, the data is evaluated. If the LCS is within acceptance criteria, the batch is considered acceptable.

For certain methods, a Matrix Spike/Sample Duplicate (MS/DU) may be included in the QC batch in place of the MS/MSD. For the parameters (i.e. pH, ignitability) where it is not possible to prepare a spiked sample, a Sample Duplicate may be included in the QC batch. However, a Sample Duplicate is less likely to provide usable precision statistics depending on the likelihood of finding concentrations below the standard reporting limit. When the Sample Duplicate result fails to meet acceptance criteria, the data is evaluated.

For certain methods (600 series methods/CWA), a Matrix Spike is required in place of a Matrix Spike/Matrix Spike Duplicate (MS/MSD) or Matrix Spike/Sample Duplicate (MS/DU).

The acceptance criteria do not apply to samples that are diluted.

### **SURROGATE COMPOUNDS**

In addition to these batch-related QC indicators, each organic environmental and QC sample is spiked with surrogate compounds. Surrogates are organic chemicals that behave similarly to the analytes of interest and that are rarely present in the environment. Surrogate recoveries are used to monitor the individual performance of a sample in the analytical system.

If surrogate recoveries are biased high in the LCS, LCSD, or the Method Blank, and the associated sample(s) are ND, the batch is acceptable. Otherwise, if the LCS, LCSD, or Method Blank surrogate(s) fail to meet recovery criteria, the entire sample batch is reprepared and reanalyzed. If the surrogate recoveries are outside criteria for environmental samples, the samples will be reprepared and reanalyzed unless there is objective evidence of matrix interference or if the sample dilution is greater than the threshold outlined in the associated method SOP.

The acceptance criteria do not apply to samples that are diluted. All other surrogate recoveries will be reported.

For the GC/MS BNA methods, the surrogate criterion is that two of the three surrogates for each fraction must meet acceptance criteria. The third surrogate must have a recovery of ten percent or greater.

For the Pesticide and PCB methods, the surrogate criterion is that one of two surrogate compounds must meet acceptance criteria. The second surrogate must have a recovery of 10% or greater.



### **TestAmerica Certifications and Approvals:**

The laboratory is certified for the analytes listed on the documents below. These are available upon request.  
California (#01144CA), Connecticut (#PH-0590), Florida (#E87225),  
Illinois (#200004), Kansas (#E10336), Minnesota (#39-999-348), New Jersey (#OH001), New York (#10975), Nevada  
(#OH-000482008A), OhioVAP (#CL0024), Pennsylvania (#008), West Virginia (#210), Wisconsin (#999518190), NAVY,  
ARMY, USDA Soil Permit



## EXECUTIVE SUMMARY - Detection Highlights

A0K030438

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
<b>RI 11/01/10 18:20 002</b>				
Mercury	1.1	0.50	ng/L	CFR136A 1631E
<b>601(7)WWT 11/01/10 18:40 003</b>				
Mercury	408000	10000	ng/L	CFR136A 1631E
<b>601(7)WWT TOT 11/01/10 18:45 004</b>				
Mercury	248	10.0	ug/L	SW846 7470A
Mercury	350	20.0	ug/L	SW846 7470A
<b>601(7)WWT TOT DUP 11/01/10 18:50 005</b>				
Mercury	13.3	0.40	ug/L	SW846 7470A
Mercury	378	20.0	ug/L	SW846 7470A
<b>601(8)WWT 11/01/10 19:05 006</b>				
Mercury	247000	10000	ng/L	CFR136A 1631E
<b>601(8)WWT TOT 11/01/10 19:10 007</b>				
Mercury	104	4.0	ug/L	SW846 7470A
<b>608 WWT 11/02/10 08:55 009</b>				
Mercury	248	10.0	ng/L	CFR136A 1631E
<b>608 WWT DUP 11/02/10 09:00 010</b>				
Mercury	254	10.0	ng/L	CFR136A 1631E
<b>608 WWT DISS 11/02/10 09:05 011</b>				
Mercury - DISSOLVED	124	5.0	ng/L	CFR136A 1631E
<b>OUTFALL 002 11/02/10 09:35 013</b>				
Mercury	2.9	0.50	ng/L	CFR136A 1631E

(Continued on next page)

## EXECUTIVE SUMMARY - Detection Highlights

A0K030438

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
OUTFALL 002 DUP 11/02/10 09:40 014				
Mercury	3.0	0.50	ng/L	CFR136A 1631E

# ANALYTICAL METHODS SUMMARY

A0K030438

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>
Mercury in Liquid Waste (Manual Cold-Vapor)	SW846 7470A
Mercury, Low Level Mercury, CVA Fluorescence	CFR136A 1631E

## References:

- CFR136A "Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
- SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

## SAMPLE SUMMARY

A0K030438

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
L9GK5	001	RIFB	11/01/10	18:15
L9GLC	002	RI	11/01/10	18:20
L9GLF	003	601(7)WWT	11/01/10	18:40
L9GLH	004	601(7)WWT TOT	11/01/10	18:45
L9GLJ	005	601(7)WWT TOT DUP	11/01/10	18:50
L9GLL	006	601(8)WWT	11/01/10	19:05
L9GLR	007	601(8)WWT TOT	11/01/10	19:10
L9GLT	008	608 WWT FB	11/02/10	08:50
L9GLV	009	608 WWT	11/02/10	08:55
L9GLX	010	608 WWT DUP	11/02/10	09:00
L9GL0	011	608 WWT DISS	11/02/10	09:05
L9GL5	012	OUTFALL 002 FB	11/02/10	09:30
L9GL8	013	OUTFALL 002	11/02/10	09:35
L9GMC	014	OUTFALL 002 DUP	11/02/10	09:40
L9GMF	015	TRIP BLANK	11/02/10	

### NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Duke Energy Corporation

Client Sample ID: RIFB

TOTAL Metals

Lot-Sample #...: A0K030438-001

Matrix.....: WQ

Date Sampled...: 11/01/10 18:15 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
<b>Prep Batch #...: 0308267</b>						
Mercury	ND	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9GK51AA
Dilution Factor: 1						

Duke Energy Corporation

Client Sample ID: RI

TOTAL Metals

Lot-Sample #...: A0K030438-002

Matrix.....: WG

Date Sampled...: 11/01/10 18:20 Date Received...: 11/03/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0308267						
Mercury	1.1	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9GLC1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: 601(7)WWT

TOTAL Metals

Lot-Sample #...: A0K030438-003

Matrix.....: WG

Date Sampled...: 11/01/10 18:40 Date Received...: 11/03/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0308267						
Mercury	408000	10000	ng/L	CFR136A 1631E	11/04-11/05/10	L9GLF1AA

Dilution Factor: 20000

Duke Energy Corporation

Client Sample ID: 601(7)WWT TOT

TOTAL Metals

Lot-Sample #...: A0K030438-004

Matrix.....: WG

Date Sampled...: 11/01/10 18:45 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 0308014

Mercury	248	10.0	ug/L	SW846 7470A	11/04-11/08/10	L9GLH1AA
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Dilution Factor: 50

Prep Batch #...: 0316013

Mercury	350	20.0	ug/L	SW846 7470A	11/12-11/15/10	L9GLH2AA
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Dilution Factor: 100



Duke Energy Corporation

Client Sample ID: 601(7)WWT TOT DUP

TOTAL Metals

Lot-Sample #...: A0K030438-005

Matrix.....: WG

Date Sampled...: 11/01/10 18:50 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
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Prep Batch #...: 0309015

Mercury	13.3	0.40	ug/L	SW846 7470A	11/05-11/09/10	L9GLJ1AA
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Dilution Factor: 2

Prep Batch #...: 0316013

Mercury	378	20.0	ug/L	SW846 7470A	11/12-11/15/10	L9GLJ2AA
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Dilution Factor: 100

Duke Energy Corporation

Client Sample ID: 601(8)WWT

TOTAL Metals

Lot-Sample #...: A0K030438-006

Matrix.....: WG

Date Sampled...: 11/01/10 19:05 Date Received...: 11/03/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0308267						
Mercury	247000	10000	ng/L	CFR136A 1631E	11/04-11/05/10	L9GLL1AA

Dilution Factor: 20000

Duke Energy Corporation

Client Sample ID: 601(8)WWT TOT

TOTAL Metals

Lot-Sample #...: A0K030438-007

Matrix.....: WG

Date Sampled...: 11/01/10 19:10 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 0308014						
Mercury	104	4.0	ug/L	SW846 7470A	11/04-11/08/10	L9GLR1AA

Dilution Factor: 20

Duke Energy Corporation

Client Sample ID: 608 WWT FB

TOTAL Metals

Lot-Sample #...: A0K030438-008

Matrix.....: WQ

Date Sampled...: 11/02/10 08:50 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 0308267						
Mercury	ND	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9GLT1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: 608 WWT

TOTAL Metals

Lot-Sample #...: A0K030438-009

Matrix.....: WG

Date Sampled...: 11/02/10 08:55 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 0308267						
Mercury	248	10.0	ng/L	CFR136A 1631E	11/04-11/05/10	L9GLV1AA

Dilution Factor: 20

Duke Energy Corporation

Client Sample ID: 608 WWT DUP

TOTAL Metals

Lot-Sample #...: A0K030438-010

Matrix.....: WG

Date Sampled...: 11/02/10 09:00 Date Received...: 11/03/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0308267						
Mercury	254	10.0	ng/L	CFR136A 1631E	11/04-11/05/10	L9GLX1AA
		Dilution Factor: 20				

Duke Energy Corporation

Client Sample ID: 608 WWT DISS

DISSOLVED Metals

Lot-Sample #...: A0K030438-011

Matrix.....: WG

Date Sampled...: 11/02/10 09:05 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 0308267						
Mercury	124	5.0	ng/L	CFR136A 1631E	11/04-11/05/10	L9GL01AA
		Dilution Factor: 10				

Duke Energy Corporation

Client Sample ID: OUTFALL 002 FB

TOTAL Metals

Lot-Sample #...: A0K030438-012

Matrix.....: WQ

Date Sampled...: 11/02/10 09:30 Date Received...: 11/03/10

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING</u> <u>LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK</u> <u>ORDER #</u>
Prep Batch #...: 0308267						
Mercury	ND	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9GL51AA
		Dilution Factor: 1				



Duke Energy Corporation

Client Sample ID: OUTFALL 002

TOTAL Metals

Lot-Sample #...: A0K030438-013

Matrix.....: WG

Date Sampled...: 11/02/10 09:35 Date Received...: 11/03/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0308267						
Mercury	2.9	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9GL81AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: OUTFALL 002 DUP

TOTAL Metals

Lot-Sample #...: A0K030438-014

Matrix.....: WG

Date Sampled...: 11/02/10 09:40 Date Received...: 11/03/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0308267						
Mercury	3.0	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9GMC1AA
		Dilution Factor: 1				

Duke Energy Corporation

Client Sample ID: TRIP BLANK

TOTAL Metals

Lot-Sample #...: A0K030438-015

Matrix.....: WQ

Date Sampled...: 11/02/10

Date Received...: 11/03/10

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 0308267						
Mercury	ND	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9GMF1AA
		Dilution Factor: 1				

# ***QUALITY CONTROL SECTION***

# METHOD BLANK REPORT

## TOTAL Metals

Client Lot #...: A0K030438

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #:</b> A0K040000-014 <b>Prep Batch #...</b> : 0308014						
Mercury	ND	0.20	ug/L	SW846 7470A	11/04/10	L9HVT1AU
Dilution Factor: 1						
<b>MB Lot-Sample #:</b> A0K040000-267 <b>Prep Batch #...</b> : 0308267						
Mercury	ND	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9JML1AA
Dilution Factor: 1						
<b>MB Lot-Sample #:</b> A0K050000-015 <b>Prep Batch #...</b> : 0309015						
Mercury	ND	0.20	ug/L	SW846 7470A	11/05-11/08/10	L9KXG1AE
Dilution Factor: 1						
<b>MB Lot-Sample #:</b> A0K120000-013 <b>Prep Batch #...</b> : 0316013						
Mercury	ND	0.20	ug/L	SW846 7470A	11/12-11/15/10	L9XK61AA
Dilution Factor: 1						

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

DISSOLVED Metals

Client Lot #...: A0K030438

Matrix.....: WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MB Lot-Sample #:</b> A0K040000-267 <b>Prep Batch #...</b> : 0308267						
Mercury	ND	0.50	ng/L	CFR136A 1631E	11/04-11/05/10	L9JML1AD
Dilution Factor: 1						

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.

# LABORATORY CONTROL SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A0K030438

Matrix.....: WATER

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>LCS Lot-Sample#:</b> A0K040000-014 <b>Prep Batch #...</b> : 0308014					
Mercury	105	(81 - 123)	SW846 7470A	11/04/10	L9HVT1A7
Dilution Factor: 1					
<b>LCS Lot-Sample#:</b> A0K040000-267 <b>Prep Batch #...</b> : 0308267					
Mercury	90	(77 - 125)	CFR136A 1631E	11/04-11/05/10	L9JML1AC
Dilution Factor: 1					
<b>LCS Lot-Sample#:</b> A0K050000-015 <b>Prep Batch #...</b> : 0309015					
Mercury	100	(81 - 123)	SW846 7470A	11/05-11/08/10	L9KXG1A9
Dilution Factor: 1					
<b>LCS Lot-Sample#:</b> A0K120000-013 <b>Prep Batch #...</b> : 0316013					
Mercury	96	(81 - 123)	SW846 7470A	11/12-11/15/10	L9XK61AC
Dilution Factor: 1					

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE EVALUATION REPORT

DISSOLVED Metals

Client Lot #...: A0K030438

Matrix.....: WATER

<u>PARAMETER</u>	<u>PERCENT</u> <u>RECOVERY</u>	<u>RECOVERY</u> <u>LIMITS</u>	<u>METHOD</u>	<u>PREPARATION-</u> <u>ANALYSIS DATE</u>	<u>WORK ORDER #</u>
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LCS Lot-Sample#: A0K040000-267 Prep Batch #...: 0308267

Mercury	90	(77 - 125)	CFR136A 1631E	11/04-11/05/10	L9JML1AE
		Dilution Factor: 1			

**NOTE(S):**

Calculations are performed before rounding to avoid round-off errors in calculated results.



# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A0K030438

Matrix.....: WATER

Date Sampled...: 11/02/10 11:30 Date Received...: 11/03/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #:</b> A0K030503-001 <b>Prep Batch #...</b> : 0308014							
Mercury	101	(69 - 134)			SW846 7470A	11/04/10	L9G401CK
	96	(69 - 134)	4.4	(0-20)	SW846 7470A	11/04/10	L9G401CL
Dilution Factor: 1							

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A0K030438

Matrix.....: WG

Date Sampled...: 11/02/10 09:40 Date Received...: 11/03/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #:</b> A0K030438-014 <b>Prep Batch #...</b> : 0308267							
Mercury	98	(71 - 125)			CFR136A 1631E	11/04-11/05/10	L9GMC1AC
	97	(71 - 125)	0.69	(0-24)	CFR136A 1631E	11/04-11/05/10	L9GMC1AD
Dilution Factor: 5							

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A0K030438

Matrix.....: WATER

Date Sampled...: 11/02/10 13:15 Date Received...: 11/03/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #:</b> A0K030571-002 <b>Prep Batch #...</b> : 0308267							
Mercury	95	(71 - 125)			CFR136A 1631E	11/04-11/05/10	L9HLC1AC
	95	(71 - 125)	0.07	(0-24)	CFR136A 1631E	11/04-11/05/10	L9HLC1AD
Dilution Factor: 5							

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# MATRIX SPIKE SAMPLE EVALUATION REPORT

## TOTAL Metals

Client Lot #...: A0K030438

Matrix.....: WATER

Date Sampled...: 11/01/10 15:50 Date Received...: 11/04/10

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHOD	PREPARATION- ANALYSIS DATE	WORK ORDER #
<b>MS Lot-Sample #:</b> A0K040537-001 <b>Prep Batch #...</b> : 0309015							
Mercury	96	(69 - 134)			SW846 7470A	11/05-11/08/10	L9J0P1C0
	94	(69 - 134)	1.9	(0-20)	SW846 7470A	11/05-11/08/10	L9J0P1C1
		Dilution Factor: 1					

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

# TestAmerica

**THE LEADER IN ENVIRONMENTAL TESTING**

☐ Other

COC No:

Lab Contact	
Telephone:	

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TAL-0018 (1008)

# Chain of Custody Record

**TestAmerica**  
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location:

Regulatory program:

☐ DW ☐ NPDES ☐ RCRA ☐ Other

Company Name: \_\_\_\_\_

Client Contact: \_\_\_\_\_

Site Contact: \_\_\_\_\_

Lab Contact: \_\_\_\_\_

TestAmerica Laboratories, Inc.

Address: \_\_\_\_\_

Telephone: \_\_\_\_\_

Telephone: \_\_\_\_\_

Telephone: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Email: \_\_\_\_\_

Telephone: \_\_\_\_\_

Telephone: \_\_\_\_\_

Phone: \_\_\_\_\_

Method of Shipment/Carrier: \_\_\_\_\_

Shipping/Tracking No: \_\_\_\_\_

Project Name: \_\_\_\_\_

Project Number: \_\_\_\_\_

P.O. # \_\_\_\_\_

Sample Identification

Sample Date

Sample Time

Air

Aqueous

Sediment

Solid

Other:

H2SO4

HNO3

HCl

NaOH

ZnAc/NaOH

Unpres

Other:

Matrix

Comments & Remarks

Analysis Date/Time

Analysis Location

Analysis Method

Analysis Result

Analysis Unit

Analysis Comment

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Analysis Result

Lot Number: AOK 030438

Cooler Received on 11-3-10      Opened on 11-3-10      (Signature) \_\_\_\_\_

TestAmerica Cooler # Not Multiple Coolers ☐ Foam Box ☐ Client Cooler ☐ Other ☐

If YES, Quantity 1 Quantity Unsalvageable                     

Were custody seals on the bottle(s)? Yes ☐ No ☒

If YES, are there any exceptions? \_\_\_\_\_

2. Shippers' packing slip attached to the cooler(s)? Yes ☒ No ☐

3. Did custody papers accompany the sample(s)? Yes ☒ No ☐ Relinquished by client? Yes ☒ No ☐

4. Were the custody papers signed in the appropriate place? Yes ☒ No ☐

5. Packing material used: Bubble Wrap ☒ Foam ☐ None ☐ Other ☐

6. Cooler temperature upon receipt 14.7 °C See back of form for multiple coolers/temps ☐

METHOD: IR ☒ Other ☐

COOLANT: ☒ Wet Ice ☒ Blue Ice ☐ Dry Ice ☐ Water ☐ None ☒

7. Did all bottles arrive in good condition (Unbroken)? Yes ☒ No ☐

8. Could all bottle labels be reconciled with the COC? Yes ☒ No ☐

9. Were sample(s) at the correct pH upon receipt? Yes ☐ No ☒ NA ☐

10. Were correct bottle(s) used for the test(s) indicated? Yes ☒ No ☐

11. Were air bubbles >6 mm in any VOA vials? Yes ☐ No ☐ NA ☒

12. Sufficient quantity received to perform indicated analyses? Yes ☒ No ☐

13. Was a trip blank present in the cooler(s)? Yes ☒ No ☐ Were VOAs on the COC? Yes ☐ No ☒

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal ☐ Voice Mail ☐ Other ☐

Concerning

## 14. CHAIN OF CUSTODY

The following discrepancies occurred:

## 15. SAMPLE CONDITION

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container

Sample(s) \_\_\_\_\_ were received with bubble >6 mm in diameter. (Notify PM)

## 16. SAMPLE PRESERVATION

Sample(s) 1x250 each 1845, 1850, 1910 were further preserved in Sample

Receiving to meet recommended pH level(s). (Nitric Acid Lot# 051010- $\text{HNO}_3$ ); Sulfuric Acid Lot# 051010- $\text{H}_2\text{SO}_4$ ; Sodium

Hydroxide Lot# 100108 -NaOH; Hydrochloric Acid Lot# 092006-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-

(CH<sub>3</sub>COO)<sub>2</sub>Zn/NaOH. What time was preservative added to sample(s)? 11:30

<u>Client ID</u>	<u>pH</u>	<u>Date</u>	<u>Initials</u>
1845	62	11-3-10	JS
1850	62	f	f
1910	62	f	f

[illegible]



***END OF REPORT***